

## Measuring the Information Needs of Teachers in their Organizational Context: A Preliminary Adaptation Study for the Portuguese Population

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### Abstract

There has been a dearth of research into the role of organizational communication within the teaching context in general, and in Portugal in particular. One reason for this has been the lack of suitable measurement instruments. The present study is intended to help to rectify this situation by adapting to the Portuguese population two questionnaires that integrate related communicational items: Information I receive now / Information I need to receive, and Information I send now / Information I need to send. These were based on instruments previously validated in the UK and USA, and were adapted to the Portuguese context through a process of translation-retroversion, maintaining the structure and number of items. Subsequently, data were collected on a population of teachers from three schools in Northern Portugal. The instruments revealed robust psychometric qualities as well as readily transferrable comprehension and applicability. They are therefore pertinent instruments that offer real potential for future research. The results also reveal significant differences between the 'information received' and the 'information that needs to be received', as well as the 'information sent' and the 'information that needs to be sent', by teachers within their schools. From a practical point of view, this research allows us to rethink organizational communication strategies and thus to contribute to the promotion of approaches capable of enabling diagnosis and intervention in this field. This, in turn, will contribute to the development of strategies that are capable of promoting the well-being and quality of life of teachers.

**Keywords:** Communication; Organizations; Information received; Information sent

### Introduction

Organizational communication has been the subject of extensive research across many parts of the private and public sectors. However, the concept of organizational communication in the school context is one area that remains under-researched. This is particularly the case in Portugal. The present investigation was designed to help to overcome this research gap by designing valid instruments to measure the process of communication in Portuguese school organizations. A second aim was to use these instruments to examine the attitudes of teachers to information management and flow within their schools.

Communication is the central element in the evolutionary line and triggers interpersonal skills that promote individual and collective benefits, emotional, cognitive, behavioral and relational. During social encounters we spend about seventy percent of the time communicating and transferring meanings (Robbins & Judge, 2017) that may or may not be understood by the interlocutors; two different mental figures. Furthermore, the absence of communication induces negative emotional states due to the lack of trust in the actions, the withdrawal of significant people and the failure of the interactors to gauge the effectiveness of their own options and actions (Hargie, 2006; Hargie, 2017), which is why "Interaction is the essential nutrient that nourishes and sustains the social milieu" (Hargie, 2017, p.2). Feedback is at the basis of organizational communication: positive feedback, when it amplifies the output level, and negative feedback when output level decreases. The effects are variable, positive or negative, according to the conditions, transmission time or inertia of the system. Communication has four basic functions: control, motivation, emotional expression and information (Robbins & Judge,

2017). The control function is exercised through compliance with rules and regulations; the obligation to report anomalies at work and the need to follow rules and instructions appropriate to organizational policies. The motivational function is accomplished when workers know how they should perform their tasks and when they know the ways to improve them. The emotional and informational expressions of communication concern the interactions in the group or groups and the information provided to make decisions and evaluate the alternatives

Communication is also a means of acquiring knowledge, norms, values and meanings and a buffer in difficult situations or traumatic experiences. Subjects with high levels of interpersonal skills tend to manage stress better, have higher levels of self-efficacy, are better able to manage meaningful relationships, adapt more easily to transitions in their daily lives, and demonstrate low levels of depression, loneliness, and anxiety (Lievens & Sackett, 2012). Communication is facilitated by committed relationships, which tend to extend the network of purposes and commitments and enhance social reputation and social capital. Social capital and interpersonal skills allow resources and resource flows to be accumulated in personal, social and/or organizational life (Müller et al., 2015; Spitzberg & Cupach, 2011). In an organizational context, the social interaction mediated by communication is complex and involves professionals from different areas and with positions inherent to specific and diversified hierarchical strata. Therefore, cognitive, technical and communicative skills are related to high work effectiveness, a major reason why effective intra and extra organizational communication is critical to corporate success (Hargie, 2006). Fluid organizational communication induces general satisfaction and consequently individual well-being and motivation (Bedwell et al., 2014; Clappitt, 2013; Lunenburg, 2010; Muhamedi & Ariffin, 2017). Effective internal and external communications are also essential for the organization to maintain respectability, positive reputation, compliance with economic objectives and organizational resilience (Ismail, Arifin, Aiyub et al, 2017). The study of communication encompasses both the contexts common to human communication (interpersonal, small group, organizational and mass) and the operational processes themselves (codification, meaning, thought, information and persuasion).

The focus of this research is the organizational context, in terms of internal communications and formal networks (Tourish & Hargie, 2017). Organizational communication is mediated by many different channels (face-to-face, electronic mail, telecommunications, circulars, letters, press, films, etc.), but personal interaction has become less frequent (Hargie, 2016). Yet, for organizations to be effective, this channel is crucial. Its success depends upon leadership, the elements of building and maintaining the group and the roles and tasks of the group, and also upon the interpersonal effects within the group (syntality) (Cattell, 1948). In the perspective of Hargie & Tourish (2009a) the communicating organization links content closely to process in information transmission. Organizations, like professional groups in particular and groups in general, share codes and meanings (Wit, in press). They are specific contexts heavily influenced by structure, productivity goals, individual goals, immediate needs and economic and political contexts, the source and credibility of communication, networks that process information, among others. In the Cattell perspective, organizational communication is also based on the relationships among its members, the feedback obtained through the expressed reactions, resulting from the evaluation of the impact that the message exerts on the recipient. In this sense, centrifugal and centripetal communication are influenced by the physical, social, chronological and cultural context, that is, by the environment in which communication is carried out and, although it stems from the need to reduce uncertainty, it must by its nature to be skilled (Hargie & Tourish, 2009a).

In this way, communication is the process by which the organization or employee makes information available and comprehensible. This facilitates the acquisition and sharing of knowledge, norms, values and meanings and cushions traumatic situations. An unsuccessful communicative process predicts various occupational hazards, creating physical and emotional stress for employees. By contrast, effective communication protects personal resources and restores threatened resources, develops a consistent image of organizational values, reduces turnover, and increases engagement.

Given the complexity of the communicative process, the present research aims to analyze the impact of expressed and desired communication on a sample of school teachers. This is a professional group with certain specificities, in that teachers are civil servants dependent on the policies resulting from the electoral processes and their educational policies. The focus of this research is the organizational context, in terms of formal internal communication. Often information and communication are taken as synonymous. However, these are two different procedures. Information delivery does not presuppose feedback and can therefore be unidirectional; communication, by contrast, is bidirectional and each of the interlocutors is simultaneously emitter and receiver.

Despite previous studies identifying the need for more research on communication in school organizations (e.g. Tourish & Hargie, 1998; Hunt, Tourish, & Hargie, 2000; Thomsen, Karsten, & Oort, 2016; De Nobile & McCormick, 2008), this field still requires greater research impetus. Little is currently known about how, and in what ways, teachers perceive their communicative role as key players in their organizational milieu (De Nobile, 2017). One reason for this is that there currently exist few validated questionnaires to measure and chart attitudes in this context. While a wide range of instruments have been developed to measure and monitor organizational communication (see Clampitt, 2009 for a review), few of these have been applied to the school organization. In addition, none has been adapted to take cognizance of cultural factors in Portuguese organizations. The first aim of this research was therefore to address these issues by developing and validating questionnaires that would allow researchers to gather empirical data on the communication attitudes of teachers towards their school organizations in Portugal. The second aim was to administer these questionnaires in schools to determine the attitudes of teachers to extant information flow.

## Research Methods

### 2.1 Participants

The sample comprised 147 teachers from the north of Portugal. It was a non-probabilistic sample, collected from three randomly selected schools in the districts of Aveiro, Braga and Porto. Teaching in Portugal is organized into five cycles: Pre-School Teaching; Basic Education, organized in three sequential cycles (from 1st year to 9th year of schooling); Secondary Education, organized in three academic years and includes Scientific-Humanistic Courses and Professional Courses; Post-secondary non-university teaching, of technological nature and Higher Education. The data was collected in the Second and Third cycles of Basic Education. The second cycle is multidisciplinary and the Third aims to develop knowledge and skills to pursue studies or entry into active life. They are compulsory levels of education representing the largest number of the student population. The sample was selected as follows: Porto, Braga and Aveiro were identified as the most populous districts in Northern Portugal. Schools were identified in the three districts with the largest number of students and, correspondingly, with a larger number of teachers. Discussions took place with each of the schools to obtain their authorization and consent for the study. The sample was mostly female, married or in partnerships, with high literacy, few children, with a higher age, and, consequently, with more years of service, mostly working relatively close to their home (see Table 1). The predominantly female sample reflects the nature of education in Portugal; as in the European Union, there are more women working at all levels of education with the exception of higher education. In pre-primary education 99% are women; in primary and secondary education about 75%.

**Table 1. Sample Descriptive Statistics**

		N	%	% Valid	% Cumulative
<b>Genre</b>	Female	111	81	81	81
	Male	28	19	100,0	100,0
<b>Nationality</b>	Portuguese	147	100,0	100,0	100,0
<b>Age</b>	23 a 35 years	15	10,2	10,3	10,3
	36 a 59	63	42,9	43,2	53,4
	51 a 66	68	46,3	46,6	100,0
<b>Schooling</b>	PhD	4	2,7	2,8	2,8
	Masters	13	8,8	9,0	11,8
	Licenciatura	128	87,1	88,2	100,0
<b>Residence</b>	Rural	46	31,3	31,5	31,5
	Urban	100	68,0	68,5	100,0
<b>Children</b>	0	40	27,2	28,2	28,2
	1	36	24,5	25,4	53,5
	2	55	37,4	38,7	92,3
	3	8	5,4	5,6	97,9
	4	3	2,0	2,1	100,0
<b>House-work (distance Km)</b>	0-5	75	51	53,6	53,6
	6-20	20	53	36,1	91,4
	+ 20	12	8,2	8,6	100,0
<b>Years of profession</b>	1 a 15 years	29	19,7	20,1	20,1
	16 a 30	64	43,5	44,1	64,6
	31 a 45	51	34,7	35,4	100,0

<b>Marital status</b>	Not married	26	17,7	17,8	17,8
	Married or partnerships	95	64,6	65,1	82,9
	Divorced	23	15,6	15,8	98,6
	Widower	2	1,4	1,4	100,0

## 2.2 Questionnaires

The design of the study was quantitative in nature, and involved the administration of five questionnaires: a) Sociodemographic questionnaire (as detailed in Table 1); b) Questionnaire on Information Received; c) Questionnaire on Information Desired; d) Questionnaire on Information Sent; e) Questionnaire on Information Needed to Send. The latter four questionnaires were adapted for Portuguese school organizations from a communication audit instrument developed by Quinn, Hargie and Tourish (2009) for a specific organizational context. The Quinn et al. questionnaire was a tailored version of a generic organizational communication audit instrument developed by Hargie & Tourish (2009b) in the UK, which in turn was an adaptation and refinement of the International Communication Audit Survey previously validated in the USA (Goldhaber & Rogers, 1979).

The first two (b, c) questionnaires were composed of sixteen questions, all of which are scored on a five-point Likert scale (1 - Very little; 2 - Little; 3 - Some; 4 - Great; 5 - Very great). The remaining two (d, e) contained seven items, also evaluated on a five-point scale. The four instruments were the object of translation / retroversion and adaptation to the Portuguese language. Following authorization from the Boards of Directors of the different schools, the object of the investigation was then fully explained to the subjects. The anonymity and confidentiality of the data were guaranteed and all the participants signed a Free and Informed Consent Form. The questionnaires were then given to the teachers and they were asked to place completed questionnaires in a sealed box placed for this purpose in the teachers' staff room in the school. The overall average percentage response rate was 41%, with no significant differences across the three sites.

## Findings

An analysis of the results revealed that the teachers felt that they needed more information than was currently available to them (Table 2). Comparing the results of the two questionnaires only two items presented higher values in terms of «communication received»: "What is expected of me" and "How my work contributes to the organization". The findings reveal a management-oriented organization, focused on its organizational goals and personal performance, with little investment in training or the motivational involvement of employees. There was a lack of information regarding maturity, benefits and conditions, organizational success, performance evaluation, or how the problems reported to the organization were treated. There was also little involvement in decision-making, the problems that the organization was facing or on the possibility of improving services.

The information received was lower than the respondents desired; the results indicated that the organization tended to focus on informing teachers about what was expected of them in the workplace (Table 3). However, on the other indicators, the findings show that teachers wanted to receive more information about their own performance, about benefits and conditions, about what works well, the performance evaluation system, how problems are reported, on management actions, opportunities for promotion and personal development, personal contribution to the organization, specific problems facing the organization, and quality of services provided, among others.

There was, therefore, a felt lack of information in this professional group; they needed and wanted more information. In turn the items "Promotion opportunities", "Opportunities for personal development" and "Objectives of the organization" show high standard deviations. These results may possibly be a consequence of the various statutes of the teaching career: teachers of provisional attachment; permanent teaching staff; appointment; of final appointment; probationary period and administrative contract.

In turn, the results of the items « Information that I am sending» (Table 4) present very close values, the lowest average (2.87) refers to the item "the information sent now: to give opinions on the performance of my superior", the remaining items oscillate between 3.10 and 3.43 and the items with the least standard deviation are: «Information sent now to report problems in my work; Information sent now to request basic information for my work; Information sent now to ask for clearer instructions on the work ».

The results also show that teachers tend not to give their opinion about their direct superior, they also reveal high dispersion both in the information they are sending and in the information that they feel they need to be sending, mainly in what concerns their successes and the expression of opinions on work, and reporting of errors and failures.

### 3.1 Principal Components Factor Analysis

#### 3.1.1 Information received and desired information

We also verified the internal reliability of the instruments using the total Cronbach alpha index, the total value of the Received Information questionnaire was .916; Information you are sending .903; Information You Need to Submit .909; Information You Must Receive .937. The value was therefore greater than .800, being an indicator of high internal consistency.

The KMO test obtained a value of 0.906, the Barlett Chi-Square 1018 sphericity test, 980 with df-degrees of freedom, significance level 0.00, and commonality values greater than 0.5, for the information received questionnaire. The KMO test of the desired information questionnaire was .937, the Barlett Chi-Square sphericity test 1366.959 with df-degrees of freedom, significance level 0.00, and commonality values greater than 0.5. We proceeded to the factorial analysis of main components and through the use of screen plot we identified 4 factors, 2 in each of the questionnaires (Table 5). We aimed with this technique to operationalize and to materialize empirical indicators relating to the communication received and desired and identify the hidden constructs that best explained the phenomenon.

The first factor of the information received questionnaire explained 43.46% of the information issued by the organization, focusing predominantly on organization, management and sustainability of the organization; the second factor explained only 8.29% of the information received and focused on the maturity, training, and personal development of teachers. There was, therefore, a very marked imbalance in the content of the information received.

In turn, the desired information questionnaire explained 59, 46%, and the second factor configured by 4 items explained 18.05% with the indicators relating predominantly to work organization, and to the organizational and personal benefits of teachers; the first factor, explaining 41.41%, was markedly systemic, it concerned several domains: work, organization, teachers' performance, fundamentals of decisions, organizational problems, organizational proactivity and objectives (Table 5).

**Table 2. Information Received and Information Desired: Dispersion Measures**

Items	Information I receive now					Information I need to receive				
	1	2	3	4	5	1	2	3	4	5
My performance in my job	1 (0,7%)	15 (10,2%)	44 (29,9%)	66 (44,9%)	21 (14,3%)	4 (2,7%)	6 (4,1%)	41 (27,9%)	71 (48,3%)	21 (14,3%)
What is expected from me in my job	3 (2,0%)	4 (2,7%)	26 (7,7%)	61 (41,5%)	51 (34,7%)	8 (5,4%)	4 (2,7%)	31 (17,7%)	74 (50,3%)	20 (13,6%)
Pay, benefits and conditions	14 (9,5%)	21 (14,3%)	46 (31,3%)	51 (34,7%)	13 (8,2%)	4 (2,7%)	8 (5,4%)	26 (17,7%)	75 (51%)	26 (17,7%)
Things that go wrong in my organization	10 (6%)	21 (14,3%)	69 (46,9%)	39 (26,5%)	7 (4,8%)	3 (2%)	10 (6,8%)	49 (33,3%)	50 (40,1%)	20 (13,6%)
Performance appraisal systems	5 (3,4%)	27 (18,4%)	53 (36,1%)	51 (34,1%)	11 (7,5%)	1 (.7%)	12 (8,2%)	48 (32,7%)	54 (36,7%)	28 (19%)
How problems that I report in my job are dealt with	6 (4,1%)	17 (11,6%)	59 (40,1%)	53 (36,1%)	10 (6,8%)	2 (1,4%)	12 (8,2%)	35 (23,8%)	68 (46,3%)	23 (15,6%)
How decisions that affect my job are reached	2 (1,4%)	20 (13,6%)	57 (38,8%)	58 (39,5%)	9 (6,1%)	2 (1,4%)	10 (6,8%)	37 (25,2%)	71 (48,2%)	23 (15,6%)

Promotion opportunities	44 (29%) )	30 (20,4 ) )	37 (25,2 ) )	25 (17,2 ) )	8 (5,4%) )	11 (7,5 ) )	14 (9,5 ) )	27 (18,4 ) )	55 (37,4 ) )	33 (22,4 ) )
Staff development opportunities	13 (8,8%) )	16 (10,9 ) )	56 (38,1 ) )	48 (32,7 ) )	13 (8,8%) )	7 (4,8 ) )	12 (8,2 ) )	34 (23,1 ) )	66 (44,9 ) )	25 (17% ) )
How my job contributes to the organization	3 (2%) )	7 (4,8%) )	32 (21,8 ) )	70 (47,6 ) )	34 (23,1 ) )	4 (2,7 ) )	7 (4,8 ) )	37 (25,2 ) )	66 (44,9 ) )	30 (20,4 ) )
Specific problems faced by the organization	8 (5,4%) )	17 (11,6 ) )	77 (52,4 ) )	36 (24,5 ) )	7 (4,8%) )	1 (.7%) )	11 (7,5 ) )	50 (34,0 ) )	67 (45,6 ) )	13 (8,8 ) )
Major management decisions	10 (6,8%) )	22 (15% ) )	52 (35,4 ) )	54 (36,7 ) )	9 (6,1%) )	3 (2%) )	10 (6,8 ) )	40 (27,2 ) )	77 (52,4 ) )	13 (8,8 ) )
Important new service/production developments	5 (3,4%) )	19 (12,9 ) )	57 (38,8 ) )	59 (40,1 ) )	5 (3,4%) )	1 (.7%) )	8 (5,4 ) )	52 (35,4 ) )	71 (48,3 ) )	12 (8,2 ) )
Improvements in services/production, or how services/production are delivered	3 (2%) )	15 (10,2 ) )	66 (44,9 ) )	53 (36,1 ) )	8 (5,4%) )	2 (1,4 ) )	8 (5,4 ) )	44 (29,9 ) )	61 (41,5 ) )	25 (17% ) )
The goals of the organization	6 (4,1%) )	11 (7,5% ) )	47 (32% ) )	61 (41,5 ) )	20 (13,6 ) )	6 (4,1 ) )	10 (6,8 ) )	35 (23,8 ) )	57 (38,8 ) )	32 (21,8 ) )
The total range of services offered by my organization	1 (.7%) )	11 (7,5% ) )	50 (34% ) )	69 (46,9 ) )	14 (9,5% ) )	1 (.7%) )	14 (9,5 ) )	37 (25,2 ) )	60 (40,8 ) )	28 (19% ) )

**Table 3. Information Sent and Information Needing to Send: Relative Frequencies**

Items	Information I send now					Information I need to send				
	1	2	3	4	5	1	2	3	4	5
Reporting my successes and achievements	14 (9,5%)	11 (7,5%)	61 (41,5%)	47 (32,0%)	13 (8,8%)	11 (7,5%)	8 (5,4%)	52 (35,4%)	54 (36,7%)	18 (12,2%)
Reporting problems in my work	5 (3,4%)	13 (8,8%)	66 (44,9%)	45 (30,6%)	15 (10,2%)	5 (3,4%)	10 (6,8%)	52 (35,4%)	59 (40,1%)	15 (10,2%)
Expressing my opinions about my job	12 (8,2%)	8 (5,4%)	51 (34,7%)	63 (42,9%)	12 (8,2%)	11 (7,5%)	13 (8,8%)	40 (27,2%)	59 (40,1%)	20 (13,6%)
Asking for information essential for my work	7 (4,8%)	10 (6,8%)	53 (36,1%)	66 (44,9%)	10 (6,8%)	4 (2,7%)	15 (10,2%)	41 (27,9%)	68 (46,3%)	15 (10,2%)
Giving my opinions about the performance of my immediate manager	26 (18%)	19 (13%)	53 (36%)	43 (29,3%)	5 (3,4%)	19 (12,9%)	20 (13,6%)	41 (27,9%)	49 (33,3%)	12 (8,2%)
Requesting clearer work instructions	15 (10%)	14 (9,5%)	55 (37%)	56 (38%)	6 (4,1%)	7 (4,8%)	15 (10,2%)	46 (31,2%)	65 (44,2%)	10 (6,8%)
Reporting mistakes or failures that occur in my work area	16 (11%)	17 (12%)	58 (39,5%)	46 (31,3%)	8 (5,4%)	16 (10,9%)	11 (7,5%)	44 (29,9%)	56 (38,1%)	16 (10,9%)

**Table 4. Information Sent and Information Needing to Send: Dispersion Measures**

	Information I send now			Information I need to send		
	M	DP	N	M	DP	N
Reporting my successes and achievements	3.23	1.026	143	3.42	1.018	140
Reporting problems in my work	3.36	.915	143	3.49	.909	140
Expressing my opinions about my job	3.37	1.012	143	3.44	1.088	140
Asking for information essential for my work	3.43	.876	143	3.55	.910	122
Giving my opinions about the performance of my immediate manager	2.87	1.137	143	3.67	.904	122
Requesting clearer work instructions	3.16	.998	143	3.38	.940	140
Reporting mistakes or failures that occur in my work area	3.10	1.039	143	3.32	1.114	140

**Table 5. Factor Analysis of the Main Components of the Questionnaires: Information Received and Desired Information**

	Information I receive now		Information I need to receive	
	Factor 1	Factor 2	Factor 1	Factor 2
My performance in my job	.652		.625	
What is expected from me in my job	.773			.776
Pay, benefits and conditions		.677		.515
Things that go wrong in my organization	.645		.688	
Performance appraisal systems		.587	.743	
How problems that I report in my job are dealt with	.634		.651	
How decisions that affect my job are reached	.629		.637	
Promotion opportunities		.672	.881	
Staff development opportunities		.411	.767	
How my job contributes to the organization	.778			.609
Specific problems faced by the organization	.684		.598	
Major management decisions	.650			.501
Important new service/production developments	.574		.674	
Improvements in services/production, or how services/production are delivered	.584		.717	
The goals of the organization		.563	.666	
The total range of services offered by my organization		.782	.655	
Variance explained	43,46	8,29	41,41	18,05
Total variance explained	51, 75%		59,46	

### 3.1.2 Information sent and information needing to be sent

Regarding the questionnaire on information sent, the KMO test obtained a value of 0.885 from Kaiser-Meyer, the Barlett Chi-Square 616 sphericity test, 840 with 21 degrees of freedom and a significance level of 0.00 and values of commonality higher than 0.5. The factorial analysis of main components, through screen plot, identified two factors, (Table 6). The first factor that explained 63.63% of variance refers to the request for clearer instructions on work-related issues, the reporting of errors and faults, and opinions of the hierarchical line-manager. The second factor, which explained 12.01% of variance, referred to successes and achievements, problems at work and opinions.

The information that needs to be sent questionnaire in the KMO test obtained a value of 0.858, the Barlett Chi-Square 495 sphericity test, 574 with 150 degrees of freedom (df-degrees of freedom), significance level 0.00 and values of commonality higher than 0.5. The factorial analysis of major components identified one factor that explained 66.95% of the information that needed to be sent. It means, therefore, that teachers need to send and consider essential the content of the various items, do not ignore any information, and do not consider it redundant or unnecessary.

**Table 6. Factor Analysis of the Main Components of the Information Questionnaire**

	Information I send now		Information I need to send
	Factor 1	Factor 2	Factor 1
Requesting clearer work instructions	,879		,851
Asking for information essential for my work	,781		,851
Giving my opinions about the performance of my immediate manger	,751		,829
Reporting mistakes or failures that occur in my work area	,677	,906	,816
Reporting my successes and achievements		,800	,796
Reporting problems in my work		,678	,763
Expressing my opinions about my job			,715
<b>Variance explained</b>	63,63%	12,01%	
<b>Total variance explained</b>	75,64		66,95

## Discussion

In discussing the results of this study, we recognize a number of limitations. The sample was purposive rather than random, and involved a self-selecting sub-set of teachers in one region of Portugal. This was also a one-off study carried out at one point in time. While the sample is representative of the population in this area, it was skewed in terms of numbers of females with an older age profile. This affects any generalisations that can be made to wider populations. However, this is a novel study that will be of interest both within the education profession and more widely in relation to organizational communication.

A main conclusion from this research was that the instruments employed demonstrated robust psychometric qualities, good applicability and easy comprehension. They are therefore reliable instruments and easy to apply, and so can be the object of future research in the Portuguese teaching population. Although, as we mentioned, teachers are a very diverse population with regard to professional and remuneratory status, it was possible to verify the analytical effectiveness of the instruments.

A second conclusion was that the counterpoint between the information received and the information desired, and the information sent and the information that needs to be sent by teachers on a range of issues allowed us to conclude that the school organizations should consider as priorities: information being received and sent about organizational performance, recognition of work done, decision making, evaluation, performance, the contribution of individual work to the organization, and the possibilities of promotion.

An organization can be regarded as equivalent to a field of forces (Lewin, 1947). There are individual members and patterns of representative groups of the organization and the workers. In this sense the organizational information must assert itself around a midpoint represented by the forces tending to orient the individual in opposite directions: what works well / poorly in the organization, extent of employee involvement, decision-making, performance appraisal systems, promotion opportunities, how one's work contributes to the organization, and so on. The information must also be effective and have intentionality and be directed to the essential points of the labor relationship: the individual within the overall organization. The effectiveness of intentionality, how work contributes to the organization, direction of action and outcomes, as well as value and outcome for the individual are all core features here.

Finally, and in line with previous research (Bogler, & Nir, 2012; De Nobile, 2017), we found that teachers felt that they experienced both downward and upward information deficits; therefore, that the communication process was in itself deficient. Such communication deficits can have negative impacts upon teacher motivation and intention to remain in post (Hulpia, Devos, & Rosseel, 2009; Ladd, 2011). This means that school managers in the Portuguese context must make greater efforts to recognize the role of employees as communication partners in the corporate effort and ensure maximum involvement at all stages of the process. Previous research has shown that when steps are taken to effectively address the underlying causes of communication deficits, organisational functioning and staff satisfaction both improve (Hargie, Tourish



& Wilson, 2002). Our findings also suggest that the professionals in this study could have issues to do with lack of motivation and may well face potential psychosocial risks (Hargie, 2016). These are variables that require further study.

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